

bottom of the thread does not exceed 3500 lb. per square inch for small studs, and 6000 to 6500 lb. per square inch for large studs if in. diameter and over. The steam pressure should be taken as acting on a diameter equal to the pitch circle. The pitch of the studs should be from 3 to 4 times the diameter of the stud when small, and 4 to 5 times the diameter for large studs for high pressures. These figures may be 4 and 7 for low pressures. The thickness of the flanges may be equal to the diameter of

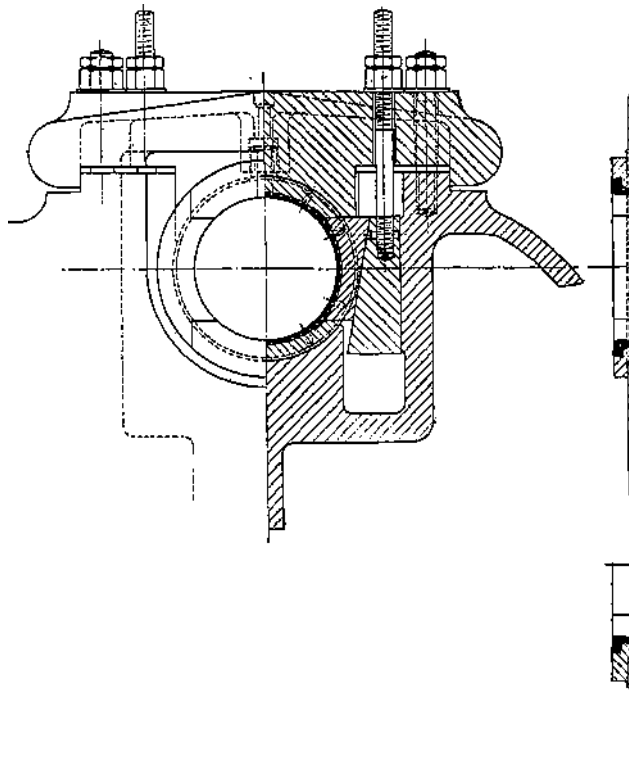


Fig. 9.—Design of Robey
Main Bearing

Fig. 10

the stud plus f to J in., and the width of flange on cylinder should be from 3 to 3½ times the diameter of the stud.

Bedplates.—For many years a common design of frame for engines with overhung cranks was of the "bayonet" girder type. The member carrying the main bearing was offset from the line of action of the steam pressure on the piston, bending stresses being thus set up which tended

to reduce the rigidity of the structure. As steam pressures increased, and more especially since the development of the Uniflow engine with its high initial piston load, the double-sweep type

of crankshaft with two bearings has been adopted, and the frame is made symmetrical about the centre line. This permits the metal to be placed" more favourably to resist the load, and gives great increase in strength and rigidity.